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EXAMINER

RUDDOCK, ULA CORINNA

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/919,233

Applicant(s)

LATHAM ET AL.

Examiner

Ula C Ruddock

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-6, 10-19 and 23-49 is/are pending in the application.
- 4a) Of the above claim(s) 27-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 15-19 and 23-25 is/are allowed.
- 6) ☐ Claim(s) 1-6, 10-14 and 49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. The Examiner has carefully considered Applicant's amendment and accompanying remarks filed October 27, 2003. The claim objections have been overcome. All other rejections have been maintained.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 103***

3. Claims 1, 2, 4-6, 10-14, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forsten et al. (US 5,578,368) in view of Lin et al. (US 5,691,036). Forsten et al. disclose a fire-resistant material comprising a fiberfill batt and at least one fire-resistant layer of aramid fibers. The aramid fiber layer may be needle-punched, hydroentangled, or laminated to the fiberfill batt (abstract). The aramid fiber layer may comprise a nonwoven fabric (col 2, ln 63-64). Forsten et al. fail to disclose that the fiberfill batt comprises aramid fibers and the aramid fiber layer is a nonwoven scrim.

Lin et al. disclose a high temperature cushioning material (abstract). The material comprises a nonwoven scrim made up of p-aramid or m-aramid fibers (col 3, ln 1-5). The scrim is made from strong, heat resistant fibers (col 2, ln 65-67). The scrim has a weight of 30-120 g/m<sup>2</sup>, i.e. .884-3.539 oz/yd<sup>2</sup> (claim 1). The material also comprises aramid batts (col 2, ln 26-28). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used Lin's nonwoven aramid scrim in place of Forsten's nonwoven fabric layer, motivated by the desire to create a lightweight, yet still

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heat-resistant fabric. Furthermore, it would have been obvious to one having ordinary skill in the art to have used Lin's aramid batt in place of Forsten's fiberfill batt, motivated by the desire to create a fabric with increased heat resistance.

With regard to claims 10, 11, 12, and 14, Forsten et al. and Lin et al. disclose the claimed invention except for the teaching that the scrim comprises approximately 11-60% of the fabric by weight, that the scrim has a thickness of approximately 0.001 to approximately 0.07 inches, that the flame resistant fibers have a thickness of approximately 0.031 to approximately 0.128 inches, and that the fabric has a tensile strength of greater than approximately 25 pounds in the machine direction and greater than approximately 30 pounds in the cross-machine direction. It should be noted that increasing the amount of scrim in the fabric composite, increasing the scrim thickness, increasing the thickness of the flame resistant fibers, and optimizing the tensile strength of the fabric in both the machine direction and cross-machine direction are all result effective variables. For example, the amount of scrim in a fabric composite directly affects the strength of the fabric composite. In addition, increasing the thickness of the flame resistant fibers directly affects the flame resistance of the composite. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the scrim comprise approximately 11-60% of the fabric by weight, to have made the scrim have a thickness of approximately 0.001 to approximately 0.07 inches, to have made the flame resistant fibers have a thickness of approximately 0.031 to approximately 0.128 inches, and to have made the fabric have a tensile strength of greater than approximately 25 pounds in

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the machine direction and greater than approximately 30 pounds in the cross-machine direction, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have optimized the scrim amount, the scrim thickness, the thickness of the flame resistant fibers, and the tensile strength, motivated by the desire to obtain a composite having increased strength and flame resistance.

Furthermore, with regard to claim 2, Forsten et al. and Lin et al. fail to disclose an aramid mixture of 65 para-aramid fibers to 35 meta-aramid fibers. It would have been obvious to one having ordinary skill in the art to have used these specific amounts of p-aramid and m-aramid fiber, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. In the present invention, one would have been motivated to use 65 para-aramid and 35 meta-aramid, motivated by the desire to create a fabric having a balance of good aesthetic properties, low shrinkage at high temperatures, increased strength, and increased flame and abrasion resistance.

With regard to claim 13, Forsten et al. and Lin et al. disclose the claimed invention except for the teaching that the fabric satisfies FAA seat burn requirements. Although Forsten et al. and Lin et al. do not explicitly teach that the fabric satisfies FAA seat burn requirements, it is reasonable to presume that satisfying FAA seat burn requirements is inherent to the fabric composite of Forsten et al. and Lin et al.. Support for said

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presumption is found in the use of like materials, i.e. a nonwoven aramid scrim needlepunched or hydroentangled to an aramid batt. The burden is upon Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 495. In addition, the presently claimed property would obviously have been present once the Forsten et al. and Lin et al. product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

**Rejection is maintained.**

4. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forsten et al. and Lin et al., as applied to claim 1 and 26 above, and further in view of Ilg et al. (US 5,560,990) and Behnke et al. (US 4,120,914). Forsten et al. and Lin et al. disclose the claimed invention except for the teaching of the scrim comprising 50% melamine fibers, and approximately 25% p-aramid fibers and 25% m-aramid fibers. Ilg et al. (US 5,560,990) disclose fiber blends of melamine resin fibers and aramid fibers (abstract) that are useful for flame and heat resistance (col 1, ln 12). The fiber blends consist essentially of 5-95 parts by weight of melamine resin fibers and 95-5 parts by weight of aramid fibers (claim 1). Behnke et al. (US 4,120,914) disclose an aromatic polyamide fiber blend for protective clothing that comprises 45-55 weight percent poly(m-phenylene isophthalamide), i.e. meta-aramids and 45-55 weight percent poly(p-phenylene terephthalamide), i.e. para-aramids (abstract). It would have been obvious to one having ordinary skill in the art to have used the melamine and aramid fiber blend of Ilg et al. in the nonwoven scrim of Forsten et al. and Lin et al., motivated by the desire to obtain a composite with increased strength and abrasion resistance. Furthermore, it would have been obvious to have used the meta-

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aramid and para-aramid fiber blend taught by Behnke et al. in the nonwoven scrim of Forsten et al. and Lin et al. and Ilg et al., motivated by the desire to obtain a composite with a balance of good aesthetic properties and low shrinkage at high temperatures.

Furthermore, it should be noted that while Ilg et al. disclose fiber blends comprising 5-95 parts by weight of melamine resin fibers and 95-5 parts by weight of aramid fibers and Behnke et al. disclose 45-55 weight percent meta-aramids and 45-55 weight percent para-aramids, they fail to explicitly teach a nonwoven scrim comprising approximately 50% melamine fibers, approximately 25% para-aramid fibers, and approximately 25% meta-aramid fibers. It would have been obvious to one having ordinary skill in the art to have made the nonwoven scrim of Forsten et al. and Lin et al, Ilg et al., and Behnke et al. comprise a fiber blend of approximately 50% melamine fibers and approximately 50% aramid fibers (i.e. 25% para-aramid and 25% meta-aramid), motivated by the desire to obtain a composite with a balance of good aesthetic properties, low shrinkage at high temperatures, increased strength, and increased flame and abrasion resistance.

**Rejection is maintained.**

#### ***Response to Arguments***

5. Applicant's arguments filed October 27, 2003, have been fully considered but they are not persuasive for the reasons set forth. Applicant argues that there is no motivation to combine Forsten et al. and Lin et al. because Forsten et al. are drawn to a fire-resistant material, whereas Lin et al. are drawn to a temperature resistant material. This argument is not persuasive because both references disclose the use of aramid fibers, which are known

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for their fire resistance (Forsten et al. at col 2, ln 46-62 and Lin et al. at col 2, ln 26-29). Furthermore, the same materials will inherently do the same thing. Applicant further argues that Forsten et al. discloses no scrim, whereas Lin et al. has a scrim and would not provide a motivation to combine. This argument is not persuasive because both references are drawn to fabrics used in cushioning (Forsten et al. at col 1, ln 24-27 and Lin et al. in the abstract). Therefore, there is motivation to combine. Applicant also argues that the combination of Forsten et al. and Lin et al. does not render obvious the present invention because Forsten fails to disclose a fire-blocking fabric or that flame resistant fibers are entangled through the nonwoven scrim and that the fiberfill batt is not flame resistant. This argument is not persuasive because the Forsten et al. reference was used in combination with the Lin et al. reference for the disclosure by Lin et al. of a nonwoven aramid scrim and an aramid batt. Furthermore, Forsten discloses in the abstract that the aramid fibers are hydroentangled to the fiberfill. Finally, it appears as though Applicant is arguing the references separately. It should be noted that one cannot show non-obviousness by attacking references individually where the rejections are based on combination of references. *In re Keller*, 208 USPQ 871 (CCPA 1981). Applicant argues that Lin et al. fail to disclose flame-resistant fibers. This argument is not persuasive Lin et al. do disclose high temperature resistant polymers such as aramids (col 2, ln 26-29). Applicant also argues that the fireblocking fabric of claim 1 consists of only two elements, whereas the material of Lin et al. is made by assembling layers of unembossed fibrous batts, with alternating layers of scrim, needle punching the layers together, and embossing a pattern



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on one outer surface. This argument is not persuasive, because in the rejection, the Examiner is only using the scrim of Lin in combination with the fiberfill batt of Forsten et al. Therefore, only two layers are present.

***Allowable Subject Matter***

6. Claims 15-19 and 23-25 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter: no prior art was found to teach a fire blocking fabric consisting of a nonwoven scrim comprising 50% melamine fibers, 25% p-aramid fibers, 25% m-aramid fibers, and a plurality of flame resistant fibers that are entangled through only one side of the nonwoven scrim.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ula C Ruddock whose telephone number is 571-272-1481.

The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1200.

UCR

*UCR*

*Ula Ruddock*  
**Ula C. Ruddock**  
Primary Examiner  
Tech Center 1700